[NAME OF DOCUMENT] ABSTRACT

[SUMMARY]

[OBJECT] To form a uniform silicon oxide firm of a high quality on the surface of a substrate at a low substrate-temperature of 200-500°C, and to provide a semiconductor device using the silicon oxide film and improve the reliability of the device, by making not larger than 30% the uniformity of the thickness of the silicon oxide film in the surface of a silicon present in the sidewall portion of the recessed portion of an element isolation region.

[ORGANIZATION] A silicon oxide film relative to the device is characterized in that Kr is contained in it. That is, by making the silicon oxide film contain Kr in it, stresses are relaxed in the silicon oxide film and the interface between the silicon oxide and silicon. Thereby, despite of forming the silicon oxide film at a low temperature, the silicon oxide film of a high quality is formed to make not larger than 30% the unevenness of its thickness in the surface of silicon present in the sidewall portion of the recessed portion of an element isolation region.

[SELECTED DRAWING] Fig. 6